



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/754,650

01/03/2001

Eric E. Del Sesto

2050.013US1

2979

44367

7590

06/24/2008

SCHWEGMAN, LUNDBERG & WOESSNER/OPEN TV

P.O. BOX 2938

MINNEAPOLIS, MN 55402-0938

EXAMINER

PARRY, CHRISTOPHER L

ART UNIT

PAPER NUMBER

2623

MAIL DATE

DELIVERY MODE

06/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The declaration submitted on June 19, 2001 was signed by inventor Timothy V. Travaille; however the signature was not dated.

### ***Specification***

2. The disclosure is objected to because of the following informalities: On page 28, line 23, "broadcast server 608 reads the OPT field 608" should be --broadcast server 606 reads the OPT field 308--.

Appropriate correction is required.

### ***Response to Arguments***

3. Applicant's arguments filed 10 April 2008 have been fully considered but they are not persuasive.

In response to applicant's argument (Page 18, 3<sup>rd</sup> ¶, lines 2-6) stating, Kalluri cannot be equated simultaneously to "a first interactive content", "an interactive content code", and "a control signal" recited in claim 1, the examiner respectfully disagrees.

The interactive trigger 200 as taught by Kalluri contains an "original or repeat" field 206 which indicates whether the trigger is new or repeated. Kalluri teaches when field 206 has a value of "1" the trigger is indicated as new and thus provides "an interactive code" to interactive program source 58 to insert a second interactive content in the video stream (Col. 6, lines 40-49). Thus, Kalluri has disclosed interactive trigger 200 contains "an interactive code" as recited in claim 1.

Second, the examiner does not directly cite that trigger 200 is the "control signal to indicate the first interactive content is to be replaced with second interactive content" as recited in the claim. The examiner discloses the control signal is produced in response to the value of field 206 or "option field" within trigger 200 and depending on the value of the field, a second interactive content is loaded by interactive program source 58 (Col. 8, lines 12-37).

Lastly, interactive trigger 200 is a "first interactive content" as taught by Kalluri as Kalluri discloses trigger command 200 comprises a plurality of fields that control how the trigger is to be executed and where it is to be directed. The inserted trigger by trigger generator 14 reads on "a first interactive content" because the trigger is inserted into the television signal which makes it content and also the trigger includes commands that instruct components at broadcast station 50 how to interact with the trigger, making the trigger "interactive content" (Col. 6, line 10 to Col. 7, line 11).

In response to applicant's argument (Page 17, 3<sup>rd</sup> ¶, lines 1-6 and Page 20, 4<sup>th</sup> ¶, lines 1-3) that Hite does not teach, suggest, or disclose a video stream that includes

interactive content, the examiner respectfully disagrees. As previously cited by the examiner, Hite discloses:

*A sequencing feature can be implemented by keeping track of which commercials were displayed by using the up stream reporting capability described above. By having a sequencing feature, viewers would see a series of commercials in correct order. One commercial builds on another. Two examples of commercials requiring sequencing are tutorials and commercials including a story line which plays out in a determined sequence. **A viewer reaction feature can be included to cause additional relevant commercials to be presented in reaction to a viewer's response to questions or other viewer interaction transmitted using the up stream reporting capability described above.** The relevant commercials could be for more detailed information about the same product or service. Alternatively, they could be for products or services which are likely to be of interest to the viewer based on the viewer's responses. For example, a viewer who requests more information about children's aspirin may also be offered a subsequent commercial on children's chewable vitamins (Col. 3, lines 9-29).*

Hite teaches that a viewer reaction feature can be included, where users can provide answers to questions presented by the commercial. By the nature of the commercial presenting questions that require the user to answer or interact, the commercial itself is considered to be interactive and therefore the commercial is interactive content. Hite teaches that commercials may be interactive and that a first interactive commercial can be replaced with a second interactive commercial. Therefore Hite discloses replacing a first interactive content with a second interactive content.

In response to applicant's argument (Page 17, 3<sup>rd</sup> ¶, lines 6-12), stating the instructions are not related to any interactive content as taught by Hite, the examiner respectfully disagrees. The commercials as taught by Hite may be interactive and therefore are considered to be interactive content. Further, the instructions as taught by

Hite, are used to control the playing of specific commercials, whether a commercial should be replaced and where the replacement commercial can be found, and prevents commercials from being skipped (Col. 4, lines 4-21 & lines 49-65; Col. 6, lines 40-65; Col. 7, lines 43-60; Col. 11, lines 53-57). Thus the instructions as taught by Hite, read on claimed interactive content code with an option field to indicate whether the first interactive content should be replaced by a second interactive content.

In response to applicant's argument (Page 24, 1<sup>st</sup> ¶, lines 2-5) stating broadcasting a trigger twice is distinct from "inserting a plurality of interactive content codes" the examiner respectfully disagrees.

Blackketter discloses transmitting a first and second trigger or "a plurality of interactive codes" (as set forth above by Kalluri that triggers contain interactive codes, Blackketter discloses triggers 1100 and 1105 contain a URI or "interactive code") inserted into different regions of data (i.e., a first region of data corresponding to a first time and first video data, and a second region of data corresponding to a second time and second video data, during which the first and second triggers are transmitted, respectively), for the purpose of improving reliability by sending redundant triggers (see figure 11; Col. 7, line 60 – Col. 8, line 15).

In response to applicant's argument (Page 24, 3<sup>rd</sup> ¶, lines 1-6) stating Kalluri does not disclose "conditions for replacing the first interactive content with the second interactive content" the examiner respectfully disagrees.

The interactive trigger 200 as taught by Kalluri contains an "original or repeat" field 206 which indicates whether the trigger is new or repeated, thus providing conditions for replacing the first interactive content or "trigger" with the second interactive content or "interactive program". Kalluri teaches when field 206 has a value of "1" the trigger is indicated as new and thus provides "an interactive code" to interactive program source 58 to insert a second interactive content in the video stream (Col. 6, lines 40-49). Furthermore, when the value of the field is set to "0" then program source 58 knows the trigger is repeated and thus can be ignored (Col. 9, lines 17-21).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5, 7, and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kalluri et al. "Kalluri" (USPN 5,937,331) [cited by applicant on 12/20/04].

Regarding Claim 1, Kalluri discloses a system for providing interactive content (fig. 1, Col. 4, ll. 56-67) comprising: hardware (16 – figure 1) adapted to receive one or more first video streams that include video data (from television signal source 12 – figure 1), first interactive content (trigger from trigger generator 14 – figure 1), and an

Art Unit: 2623

interactive content code (200 - figure 2), wherein the interactive content code includes an option field (206 - figure 2), and wherein the hardware is further to produce a second video stream (combined signal (television-trigger) output from trigger insertion unit 16 to modulator 18 shown in fig. 1) (Col. 5, lines 1-6 & lines 18-30; Col. 6, lines 1-13 & lines 40-49).

Kalluri further discloses an interactive content code detector (trigger extraction unit 56 – figure 1) adapted to detect the interactive content code (200 – figure 2) and the option field (original or repeat field 206 – figure 2) (Col. 5, lines 43-52), and based on the value of the option field (i.e., either “0” or “1”; Col. 6, lines 40-49), to produce a control signal to indicate the first interactive content (extracted trigger) is to be replaced with second interactive content (interactive program output from interactive program source 58) (Col. 8, lines 23-36).

Kalluri teaches a data insertion unit (interactive program source 58, data input unit 66, and AVI transmission unit 68 shown in figure 1) adapted to receive (from 56, Col. 5, lines 45-50) the control signal (extracted trigger from trigger extraction unit 56) and to insert (providing to AVI transmission unit 68 for combining with television signal, Col. 5, lines 53-62) interactive content (interactive program) into the second video stream (television signal output from A-V compression unit 64) to produce a third video stream (AVI signal, fig. 1) (Col. 5, lines 47-62).

As for Claim 2, Kalluri teaches wherein the data insertion unit (58, 66, and 68) is positioned to insert interactive content into the second video stream (television signal)



Art Unit: 2623

prior to the third video stream (AVI signal) being transmitted to a transmission source (satellite uplink 62), causing the second interactive content to remain in the third video stream upon transmission (i.e., interactive content is inserted into the video stream at 68, and is then transmitted to satellite uplink 62, with no intervening equipment in signal path between AVI transmission unit 68 and satellite uplink 62, see fig. 1) (Col. 5, lines 43-62).

As for Claim 3, Kalluri teaches wherein a video stream generator (12 – figure 1) generates the first video stream (television signal), and the interactive content detector (56 – figure 1) is coupled (via demodulator 54, satellite links 52 and 20, modulator 18, and trigger insertion unit 16) to an output of the video stream generator (Col. 5, lines 1-17).

As for Claim 5, Kalluri teaches wherein the interactive content code detector (56) and the data insertion unit (58, 66, and 68) are coupled to a same point (broadcast station 50) in the transmission path (i.e., path from source 12 to end users).

As for Claim 7, Kalluri teaches wherein the interactive content code is located in a vertical blanking interval of the first video stream (Kalluri, Col. 7, lines 47-55), and wherein the interactive content code detector (56) includes a vertical blanking interval line reader (Col. 8, lines 5-11).

Regarding Claim 29, Kalluri discloses a method comprising: receiving a first video stream (combined signal (television-trigger) from trigger insertion unit 16), the first video stream including video data (television signal output from television signal source 12), first interactive content (trigger from trigger generator 14), and an interactive content code (200 – figure 2 output from trigger generator 14) (Col. 5, lines 1-6 & lines 18-30; Col. 6, lines 1-13).

Kalluri further discloses generating a second video stream (television signal output from trigger extraction unit) based on the first video stream (Col. 5, lines 43-52).

Kalluri teaches detecting an option field in the interactive code (Col. 6, lines 40-49); based on a value of the option field, selectively replacing the first interactive content to produce a third video stream (Col. 8, lines 24-37).

Kalluri further teaches producing a third video stream (AVI signal) (Col. 5, lines 53-62); and transmitting the third video stream to a destination (Col. 5, lines 59-62).

As for Claim 30, Kalluri teaches wherein the interactive content code is present in a region (VBI of the television signal) in the first video stream that is preserved by a broadcast facility (Col. 7, lines 50-53).

As for Claim 31, Kalluri teaches wherein the interactive content code is present in a vertical blanking interval of the first video stream (Col. 7, lines 50-53).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri in view of Blackketter et al. "Blackketter" (USPN 6,415,438) [cited in previous office action].

As for Claims 6 and 32, Kalluri fails to disclose wherein the interactive content code is a universal resource locator. However, in an analogous art, Blackketter discloses inserting interactive content corresponding to a uniform resource locator (uniform resource identifier, Col. 8, lines 5-15 and Col. 1, lines 18-26), for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced (Col. 8, lines 5-15 and Col. 1, lines 26-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to include disclose the interactive content corresponds to a universal resource locator, as taught by Blackketter, for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced in a system for providing interactive television content.

Art Unit: 2623

8. Claims 4, 8-14, 17, 19-22, 24, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri in view of Hite et al. "Hite" (USPN 6,002,393) [previously cited in last office action].

As for Claim 4, Kalluri teaches wherein the interactive content code is received in a different stream (vertical blanking interval, Col. 7, lines 50-53) from a stream used to carry the video data (where VBI data constitutes a different stream from video data transmitted in the active lines of an NTSC signal).

Kalluri is silent on disclosing encrypting the interactive content code. In an analogous art, Hite discloses encrypting interactive content codes or "instructions" (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Regarding Claim 8, Kalluri discloses a method for providing interactive content (Col. 4, lines 56-67) in a broadcast facility (50 – figure 1) that transmits a video broadcast stream (AVI signal) containing video along a transmission path for delivery to end users (Col. 5, lines 53-62) and contains equipment (A-V compression unit 64) that may corrupt interactive content (according to page 6, ll. 3-6 of the specification of the instant application, such equipment includes video compression hardware), the method comprising:

inserting the interactive content code (200 – figure 2) into a first video stream (from television signal source 12, col. 4, ll. 7-10) based on a value of the option field (206 – figure 2), resulting in a second video stream (combined television-trigger signal, fig. 1) with embedded interactivity (i.e., embedded interactive content trigger from trigger generator 14), wherein the interactive content code specifies second interactive content (210 – figure 2; Col. 6, lines 54-59) to replace the first interactive content (Col. 5, lines 43-62);

processing the second video stream (received combined signal), to produce a third video stream (television signal at output of 56, fig. 1) (Col. 5, lines 45-52); and

inserting the second interactive content (Col. 5, lines 53-57) corresponding to the interactive content code (Col. 6, lines 40-59) into the third video stream to produce a fourth video stream (AVI signal), which includes the second interactive content and the interactive content code (combining the interactive program content with the compressed audio/video content [Col. 5, lines 57-62]).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code. However, in an analogous art, Hite discloses encrypting interactive content codes (encrypts commercial targeting instructions, Col. 7, lines 42-65 and Col. 4, lines 57-67) to reduce viewers' abilities to ignore commercial messages.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive

content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

As for Claim 9, Kalluri and Hite disclose, in particular Kalluri teaches wherein inserting an interactive content further comprises inserting an interactive content corresponding to the interactive content code (200 – figure 2) at a point in the transmission path after a last point in the transmission path where the interactive content may be corrupted (see fig. 1, the interactive content is inserted into the video stream at AVI transmission unit 68, after (i.e., to the right of) A-V compression unit 64, where A-V compression unit 64 is the last point in the transmission path where the interactive content may be corrupted).

As for Claim 10, Kalluri and Hite disclose, in particular Kalluri teaches wherein reading the encrypted interactive content code at a point in the transmission path prior to an interactive content in the second video stream being corrupted (see fig. 1, the interactive content code is read by trigger extraction unit 56, which is at a point in the transmission path prior to (i.e., to the left of) A-V compression unit 64, and hence the reading of the interactive content code occurs prior to the interactive content being corrupted, i.e., at A-V compression unit 64).

As for Claim 11, Kalluri and Hite disclose, in particular Kalluri teaches wherein the embedded interactive content code (200 – figure 2) is inserted into a region (i.e., the

vertical blanking interval, Col. 7, lines 47-53) of the second video stream that is preserved by the broadcast facility (where trigger extraction unit 56 extracts information in the VBI for use prior to potentially corrupting equipment such as compression unit 56, hence the VBI is a region that is preserved by the broadcasting facility).

As for Claim 12, Kalluri and Hite disclose, in particular Kalluri teaches wherein reading the interactive content code (200 – figure 2), wherein the interactive content is inserted (at 68) into the third video stream at a same point (broadcast station 50) in the transmission path (i.e., path from source 12 to end users) at which the interactive content code is read (at 56).

As for Claim 13, Kalluri and Hite disclose, in particular Kalluri teaches wherein reading the interactive content code (200 – figure 2), wherein the interactive content code is read at a point (at 56) in the transmission path after (i.e., to the right of) which broadcast facility equipment (A-V compression unit 64) that may corrupt an interactive content is coupled to the transmission path.

As for Claim 28, Kalluri and Hite disclose, in particular Hite teaches wherein, encrypting the interactive content code comprises disarranging elements of the interactive content code to produce a scrambled interactive content code (see Hite, col. 7, lines 42-47).

Regarding Claim 14, Kalluri discloses a method for providing interactive content (Col. 4, lines 56-67) in a broadcast facility (50 – figure 1) that transmits a video broadcast stream (AVI signal) containing video along a transmission path for delivery to end users (Col. 5, lines 53-62) and contains equipment (A-V compression unit 64) that may corrupt interactive content (according to page 6, ll. 3-6 of the specification of the instant application, such equipment includes video compression hardware), the method comprising:

inserting (by trigger insertion unit 16) an interactive content code (200 - figure 2) into a first video stream (television signal from television signal source 12, Col. 5, lines 18-30) including first interactive content (trigger from trigger generator 14), resulting in a second video stream (combined (television-trigger) signal) with embedded interactivity (trigger from trigger generator 14), wherein the interactive content code specifies second interactive content to accompany a video broadcast (210 – figure 2; Col. 6, lines 54-59) based on the value of the option field (206 – figure 2; Col. 6, lines 40-49), and wherein the interactive content code is inserted into a region of the second video stream that is preserved by the broadcast facility (i.e., the vertical blanking interval, Col. 7, lines 47-59) (where trigger extraction unit 56 extracts information in the VBI for use prior to potentially corrupting equipment such as compression unit 56, hence the VBI is a region that is preserved by the broadcasting facility);

processing the second video stream (received combined signal), to produce a third video stream (television signal at output of 56, fig. 1) (Col. 5, lines 45-52); and



inserting the second interactive content based on the interactive content code (Col. 5, lines 53-57) and the option value (Col. 6, lines 40-59) into the third video stream at a point in the transmission path after a point in the transmission path where broadcast facility equipment that may corrupt the interactive content is coupled to the transmission path (see fig. 1, the interactive content is inserted into the video stream at AVI transmission unit 68, after (i.e., to the right of) A-V compression unit 64, where A-V compression unit 64 is the last point in the transmission path where the interactive content may be corrupted), to produce a fourth video stream (AVI signal, fig. 1) [Col. 5, lines 57-62]).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code, wherein the encrypted interactive content code is encrypted in a manner to prevent ad skipping. However, in an analogous art, Hite discloses encrypting interactive content codes, wherein the encrypted interactive content code or "instructions" is encrypted in a manner to prevent ad skipping (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Regarding Claim 17, Kalluri discloses a method for providing interactive content (Col. 4, lines 56-67) in a broadcast facility (50 – figure 1) that transmits a video broadcast stream (AVI signal) containing video along a transmission path for delivery to end users (Col. 5, lines 53-62), the method comprising:

inserting a reference (200 – figure 2, Col. 6, lines 54-59) to second interactive content into a region (i.e., the vertical blanking interval, Col. 7, lines 47-53) of a first video stream (television signal from television signal source 12) including first interactive content (trigger from trigger generator 14), and wherein the region is preserved by the broadcast facility (where trigger extraction unit 56 extracts information in the VBI for use prior to potentially corrupting equipment such as compression unit 56, hence the VBI is a region that is preserved by the broadcasting facility [Col. 8, lines 5-7]), resulting in a second video stream (combined (television-trigger) signal) with embedded interactivity (Col. 5, lines 1-30);

processing the second video stream (received combined signal), to produce a third video stream (television signal at output of 56, fig. 1) (Col. 5, lines 45-52); and

inserting the second interactive content based on the reference (Col. 5, lines 53-57) and the option field (Col. 6, lines 40-59) into the third video stream, to produce a fourth video stream (AVI signal, fig. 1) (Col. 5, lines 57-62).

Kalluri discloses a reference (200 - figure 2) wherein the reference includes an option field (206 - figure 2), however is silent on disclosing encrypting the reference, wherein the encrypted reference is encrypted in a manner to prevent ad skipping. However, in an analogous art, Hite discloses encrypting a reference, wherein the

encrypted reference or “instructions” is encrypted in a manner to prevent ad skipping (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the reference, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Regarding Claim 19, Kalluri discloses a system for providing interactive content (fig. 1, Col. 4, lines 56-67) comprising: hardware (56 – figure 1) adapted to receive a first video stream (combined (television-trigger) signal, fig. 1) that includes video data (television signal from television signal source 12) first interactive content (trigger from trigger generator 12), and one or more interactive content codes (200 – figure 2), and to produce a second video stream (television signal at output of 56, fig. 1) (Col. 5, lines 43-52).

Kalluri further discloses an interactive content code detector (56,58 – figure 1), coupled to the first video stream (received combined signal from demodulator 54), adapted to detect one or more interactive content codes identified within the one or more interactive content codes (200 – figure 2, Col. 5, lines 45-57) and to produce a control signal (the extracted trigger) responsive to detecting (extracting) and processing an interactive content code (200 – figure 2) and its associated option field (206 – figure 1) (Col. 5, lines 43-62).

Kalluri teaches a data insertion unit (interactive program source 58, data input unit 66, and AVI transmission unit 68 – figure 1), coupled to the interactive content code

Art Unit: 2623

detector (56,58 – figure 1), adapted to receive the control signal (extracted trigger from 56, Col. 5, lines 47-50) and to insert second interactive content into the second video stream (television signal output from trigger extraction unit) responsive to information contained in the control signal (Col. 5, lines 47-57), resulting in a third video stream (AVI signal, fig. 1) to be transmitted to one or more local subsystems, wherein the data insertion unit (58, 66, and 68 – figure 1) is positioned to insert interactive content into the second video stream prior (i.e., no intervening equipment in signal path between AVI transmission unit 68 and satellite uplink 62, see fig. 1) to the third video stream (AVI signal) being transmitted to a transmission source (satellite uplink 62) causing the interactive content to remain in the third video stream upon transmission (Col. 5, lines 53-62).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code, wherein the encrypted interactive content code is encrypted in a manner to prevent ad skipping. However, in an analogous art, Hite discloses encrypting interactive content codes, wherein the encrypted interactive content code or “instructions” is encrypted in a manner to prevent ad skipping (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Regarding Claim 20, Kalluri discloses a system for providing interactive content (fig. 1, Col. 4, lines 56-67) comprising: local equipment (56 – figure 1), adapted to receive one or more first signals (combined (television-trigger) signal, fig. 1) from a broadcast facility (remote network 10, fig. 1), wherein the one or more first signals include video data (television signal from television signal source 12), first interactive content (trigger from trigger generator 14), and one or more interactive content codes (200 – figure 2) and include an option field (206 – figure 2), and wherein the local equipment is further to produce a first video stream (television signal at output of 56, fig. 1) (Col. 5, lines 43-52).

Kalluri further discloses an interactive content detection unit (56,58 – figure 1) adapted to detect an interactive content code (Col. 5, lines 45-47) and to transmit (providing to interactive program source 58) a control signal (the extracted trigger) responsive to detecting (extracting) and processing the interactive content code (200 – figure 2) and option field (206 – figure 2) (Col. 5, lines 45-62 and Col. 6, lines 40-59).

Kalluri teaches a data insertion unit (interactive program source 58, data input unit 66, and AVI transmission unit 68 – figure 1), coupled to the interactive content code detector (56,58 – figure 1), adapted to receive the control signal (extracted trigger from 56, Col. 5, lines 47-50) and to insert second interactive content into the first video stream (television signal output from trigger extraction unit) responsive to information contained in the control signal (Col. 5, lines 47-57), resulting in a third video stream (AVI signal, fig. 1) (Col. 5, lines 53-62).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code, wherein the encrypted interactive content code is encrypted in a manner to prevent ad skipping. However, in an analogous art, Hite discloses encrypting interactive content codes, wherein the encrypted interactive content code or "instructions" is encrypted in a manner to prevent ad skipping (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

As for Claim 21, Kalluri and Hite disclose, in particular Kalluri teaches wherein the data insertion unit (58, 66, and 68) is positioned to insert interactive content into the first video stream prior (i.e., no intervening equipment in signal path between AVI transmission unit 68 and satellite uplink 62, see fig. 1) to the second video stream (AVI signal) being transmitted to customer premise equipment (end users, via satellite uplink 62, Col. 5, lines 53-62) causing the interactive content to remain in the second video stream upon transmission.

As for Claim 22, Kalluri and Hite disclose, in particular Kalluri teaches wherein the interactive content code detector (56,58 – figure 1) and the data insertion unit (58,

Art Unit: 2623

66,68 – figure 1) are coupled to a same point (broadcast station 50) in the transmission path (i.e., source 12 to end users).

As for Claim 24, Kalluri and Hite disclose, in particular Kalluri teaches wherein the interactive content code detector (56,58 – figure 1) is a vertical blanking interval reader (Col. 8, lines 5-7).

Regarding Claim 27, Kalluri discloses a method of increasing a reliability for delivery of interactive content (Col. 4, lines 56-67), the method comprising the steps of:

inserting an interactive content code (200 – figure 2) into a first component (vertical blanking interval, Col. 7, lines 47-53) of a first signal alternate to a second component, which includes first interactive content (trigger from trigger generator 14) and is used to convey interactive content (interactive program information packets of AVI signal – figure 9, Col. 10, lines 5-18);

processing (compressing) the first signal (television signal) to produce a second signal (compressed television signal, Col. 5, lines 53-62);

detecting an interactive content code (200 – figure 2) and the option field (206 – figure 2) identified by the interactive content code in the first signal (Col. 6, lines 40-59; Col. 5, lines 45-47, where extracting inherently involves detecting);

inserting second interactive content corresponding to the interactive content code (Col. 5, lines 53-57) into the second signal and based on a value (either “0” or “1”) of the

option field (Col. 6, lines 40-49), to produce a third signal (AVI signal, fig. 1) (Col. 5, lines 57-62).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code, wherein the encrypted interactive content code is encrypted in a manner to prevent ad skipping. However, in an analogous art, Hite discloses encrypting interactive content codes, wherein the encrypted interactive content code or "instructions" is encrypted in a manner to prevent ad skipping (Col. 4, lines 49-65 and Col. 7, lines 43-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

9. Claims 15, 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri in view of Hite as applied to claims 14 and 17 above, and further in view of Blacketter.

As for Claim 15, Kalluri and Hite together disclose the method of claim 14, but fail to disclose inserting a plurality of interactive content codes in different regions of the second video signal. However, in an analogous art, Blacketter discloses inserting a plurality of interactive codes (first trigger and second trigger) inserted into different



regions of data (i.e., a first region of data corresponding to a first time, and a second region of data corresponding to a second time, during which the first and second triggers are transmitted, respectively), for the purpose of improving reliability by sending redundant triggers (Col. 7, line 60 – Col. 8, line 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri and Hite to include inserting a plurality of interactive content codes in different regions of the video broadcast signal, as taught by Blackketter, for the purpose of improving reliability by sending redundant triggers in a method for providing interactive television content.

As for Claim 18, Kalluri and Hite together disclose the method of claim 17. In addition, Kalluri discloses inserting the reference (trigger) in a region (vertical blanking interval, Col. 7, lines 47-53) of the video stream that is preserved by the broadcast facility (where trigger extraction unit 56 extracts information in the VBI for use prior to potentially corrupting equipment such as compression unit 56, hence the VBI is a region that is preserved by the broadcasting facility). Kalluri and Hite fail to disclose the reference (trigger) is a uniform resource locator. However, in an analogous art, Blackketter discloses the reference (trigger) is a uniform resource locator (uniform resource identifier, Col. 8, lines 5-15 and Col. 1, lines 18-26), for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced (Col. 8, lines 5-15 and Col. 1, lines 26-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

the system of Kalluri and Hite to include the reference is a universal resource locator, as taught by Blackketter, for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced in a system for providing interactive television content.

As for Claim 23, Kalluri and Hite together disclose the system of claim 20. In addition, Kalluri discloses the data insertion unit inserts an interactive content (interactive program) corresponding to the interactive content code (trigger) (Col. 5, lines 45-62). Kalluri and Hite fail to disclose the interactive content code comprises a universal resource locator. However, in an analogous art, Blackketter discloses the reference (trigger) is a uniform resource locator (uniform resource identifier, Col. 8, lines 5-15 and Col. 1, lines 18-26), for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced (Col. 8, lines 5-15 and Col. 1, lines 18-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri and Hite to include the reference is a universal resource locator, as taught by Blackketter, for the purpose of enabling the retrieval of Internet content such that the viewing experience may be enhanced in a system for providing interactive television content.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri, Hite, and Blackketter as applied to claim 15 above, and further in view of Ciciora [cited in previous office action].

As for Claim 16, Kalluri, Hite, and Blackketter together disclose the method of claim 15, but fail to explicitly disclose at least one of the different regions is preserved by at least one local subsystem. However, in an analogous art, Ciciora discloses the use of SCTE standards for preserving closed captioning data fields for carriage of data embedded in the VBI to the set-top terminal (i.e., the transmission having interfaced with at least one local subsystem), for the purpose of satisfying FCC regulations (pg. 101, §3.3.5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri, Hite, and Blackketter to include at least one of the regions is preserved by at least one local subsystem, as taught by Ciciora, for the purpose of satisfying FCC regulations in a method for providing interactive television content.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri in view of Hite in view of Blackketter and further in view of Ciciora (of record).

Regarding Claim 25, Kalluri discloses a method of ensuring reliable delivery of interactive content (Col. 4, lines 56-67) comprising: inserting an interactive content code (200 – figure 2) including corresponding option field (206 – figure 2) (Col. 6, lines 18-49) into a different region (the vertical blanking interval (Col. 7, lines 47-53)) of data in a video stream (Col. 5, lines 18-30) to be broadcast to a plurality of local subsystems (such as satellites, local headends, distribution nodes, etc, encountered prior to the video stream being delivered to end users, Col. 5, lines 53-62), wherein the interactive content code corresponds to an interactive content to be inserted into the video stream

based on values associated with respective option fields (Col. 4, lines 10-17; Col. 6, lines 40-49).

Kalluri discloses an interactive content code (200 - figure 2) wherein the interactive content code includes an option field (206 - figure 2), however is silent on disclosing encrypting the interactive content code in a manner to prevent ad skipping; a plurality of interactive content codes inserted into different regions of data; and each region of data is preserved by at least one local subsystem.

In an analogous art, Hite discloses an interactive content code source (addressable instruction formatter 226 of ad facility 200, figs. 2a, b) for generating interactive content codes or "instructions" is encrypted in a manner to prevent ad skipping (encrypts commercial targeting instructions, Col. 7, lines 42-65 and Col. 4, lines 57-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Kalluri and Hite fail to disclose a plurality of interactive content codes inserted into different regions of data and that each region of data is preserved by at least one local subsystem. However, in an analogous art, Blackketter discloses a plurality of interactive codes (first trigger and second trigger) inserted into different regions of data (i.e., a first region of data corresponding to a first time, and a second region of data corresponding to a second time, during which the first and second triggers are

transmitted, respectively), for the purpose of improving reliability by sending redundant triggers (Col. 7, line 60 – Col. 8, line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri and Hite to include a plurality of interactive content codes inserted into different regions of data, as taught by Blackketter, for the purpose of improving reliability by sending redundant triggers.

Kalluri, Hite, and Blackketter fail to disclose each region of data is preserved by at least one local subsystem. However, in an analogous art, Ciciora discloses the use of SCTE standards for preserving closed captioning data fields for carriage of data embedded in the VBI to the set-top terminal (i.e., the transmission having interfaced with at least one local subsystem), for the purpose of satisfying FCC regulations (pg. 101, §3.3.5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri, Hite, and Blackketter to include each region of data is preserved by at least one local subsystem, as taught by Ciciora, for the purpose of satisfying FCC regulations in a method of ensuring reliable delivery of interactive content.

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kalluri in view Hite in view of Kaiser [cited in previous office action] and further in view of Ciciora.

Regarding Claim 26, Kalluri discloses a method of ensuring reliable delivery of interactive content (Col. 4, lines 56-67) comprising: inserting an interactive content code

(200 – figure 2) into a vertical blanking region of a video stream (Col. 7, lines 47-53), wherein the first portion of the interactive content code (210 – figure 2) corresponds to second interactive content (Col. 6, lines 54-59) to be inserted into the video stream to replace first interactive content (Col. 5, lines 45-62) and a second portion of the interactive content code includes an option field (206 - figure 2) composed of conditions for replacing the first interactive content with the second interactive content (i.e., is the trigger new (Col. 6, lines 40-49))

Kalluri fails to disclose encrypting the interactive content code in a manner to prevent ad skipping; inserting the code in a closed caption region; and the closed caption region is preserved by at least one local subsystem.

In an analogous art, Hite discloses an interactive content code source (addressable instruction formatter 226 of ad facility 200, figs. 2a, b) for generating interactive content codes or “instructions” is encrypted in a manner to prevent ad skipping (encrypts commercial targeting instructions, Col. 7, lines 42-65 and Col. 4, lines 57-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kalluri to encrypt the interactive content codes, as taught by Hite, for the benefit of preventing the interactive content from being replaced.

Kalluri and Hite fail to disclose the interactive content code is inserted in a closed caption region, and the closed caption region is preserved by at least one local subsystem. However, in an analogous art, Kaiser discloses an interactive content code (trigger) inserted in a closed caption region (VBI line 21, Col. 6, lines 65-67), for the

Art Unit: 2623

purpose of enabling the insertion of triggers using conventional closed-captioning equipment (Col. 7, lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Kalluri and Hite to include the interactive content code is inserted in a closed caption region, as taught by Kaiser, for the purpose of enabling the insertion of triggers using conventional closed-captioning equipment.

Kalluri, Hite, and Kaiser fail to explicitly disclose the closed caption region is preserved by at least one local subsystem. However, in an analogous art, Ciciora discloses the use of SCTE standards for preserving closed captioning data fields for carriage of data embedded in the VBI to the set-top terminal (i.e., the transmission having interfaced with at least one local subsystem), for the purpose of satisfying FCC regulations (pg. 101, §3.3.5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Kalluri, Hite, and Kaiser to include the closed caption region is preserved by at least one local subsystem, as taught by Ciciora, for the purpose of satisfying FCC regulations in a method for ensuring reliable delivery of interactive content.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRIS PARRY whose telephone number is (571) 272-8328. The examiner can normally be reached on Monday through Friday, 8:00 AM EST to 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRIS PARRY  
Examiner  
Art Unit 2623

/C. P./  
Examiner, Art Unit 2623

/Christopher Grant/  
Supervisory Patent Examiner, Art Unit 2623